WHAT IS CLAIMED IS:

1. A fuel supply unit, comprising:

1) a fuel pump comprising;

i) a motor section, and

ii) a pump section driven by the motor section, the pump section pumping a fuel; and

2) a fuel tank for tanking therein the fuel to be pumped by the pump section and to be discharged out of the fuel tank by the pump section, the fuel tank being provided with;

i) a motor housing bulkhead sunk into the fuel tank, the motor housing bulkhead comprising;

a) an inner section for housing therein one of the following:

α) the motor section, and

β) a first part of the motor section,

b) an outer section provided with one of the following:

α) the pump section, with the motor section housed in the inner section, and

β) the pump section and a second part of the motor section, with the first part of the motor section housed in the inner section,

the inner section of the motor housing bulkhead being substantially sealably separated from the outer section of the motor housing bulkhead, in such a manner as to bring about an oil tightness.

2. The fuel supply unit as claimed in claim 1, wherein

a rotational speed of the motor section is conveyable in one of the following states:

1) a first state free from a contact between the motor section and the pump section which sandwich therebetween the motor housing bulkhead, and

2) a second state free from a contact between the first part of the motor section and the second part of the motor section, the first part and the second part sandwiching therebetween the motor housing bulkhead.

3. The fuel supply unit as claimed in claim 2, wherein

one of the following positions is so constituted that a heat in the motor housing bulkhead is insulated and thereby the heat is prevented from being conveyed to the fuel in the fuel tank:

1) a first position between the motor section and the pump section, and

2) a second position between the first part of the motor section and the second part of the motor section.

4. The fuel supply unit as claimed in claim 3, wherein

a cover body is mounted to a wall of a mount opening of the fuel tank and constitutes a part of the fuel tank, and

the cover body covers the mount opening and receives the motor section of the fuel pump in such a manner that the motor section is disposed sidewise.

5. The fuel supply unit as claimed in claim 4, wherein

the cover body includes the motor housing bulkhead and a flange section which has an expanded diameter on an opening side of the motor housing bulkhead, and

the motor housing bulkhead of the cover body is inserted into the mount opening, with the flange section mounted to an upper plate of the fuel tank.

6. The fuel supply unit as claimed in claim 5, wherein

the motor housing bulkhead 22 is a based barrel including:

1) a barrel section having a cross section shaped substantially into a lying English alphabet D, and

2) a base section covering a lower side of the barrel section, and

the barrel section is formed with a concave barrel section which is concaved sidewise and has a base.

7. The fuel supply unit as claimed in claim 6, wherein

in the motor housing bulkhead, the motor section of the fuel pump and a female joint of a magnet joint are disposed sidewise, in a position along an axial line of the concave barrel section,

around the motor section in the motor housing bulkhead, an electric part including a control unit for controlling the fuel pump, and a sensing section of a fuel gauge are provided, and

inside the concave barrel section and thereby outside the motor housing bulkhead, a rotatable male joint of the magnet joint is provided.

8. The fuel supply unit as claimed in claim 7, wherein

the concave barrel section of the motor housing bulkhead has an outer periphery formed with an outer magnet of the female joint constituting the magnet joint, and has an inner periphery formed with an inner magnet of the male joint, and

the concave barrel section substantially radially overlaps the outer magnet of the female joint with the inner magnet of the male joint, thus keeping the sealed separation of the motor section from the fuel and encouraging a magnetic coupling.

9. The fuel supply unit as claimed in claim 8, wherein

the motor section includes a motor case, a stator fixed on an inner periphery of the motor case, a rotor rotatably disposed inside the stator, a pair of brushes for energizing the rotor, and an output shaft disposed on a rotation center of the rotor in such a manner as to rotate substantially integrally with the rotor, and

the output shaft has a first end protruding outward from the motor case.

10. The fuel supply unit as claimed in claim 9, wherein

a heat insulation space as a heat insulating means is defined between the barrel section of the motor housing bulkhead and the motor case of the motor section, and

the heat insulation space insulates the heat from being conveyed to the fuel in the fuel tank.

11. The fuel supply unit as claimed in claim 10, wherein

substantially coaxially with the motor section, the pump section is disposed outside the motor housing bulkhead,

the pump section includes a pump case, an inner housing cased in the pump case, an outer housing, an annular housing sandwiched between the inner housing and the outer housing, a shaft section, and a turbine vane,

the pump case shaped substantially into a barrel is fixed to an outer periphery of the barrel section,

the shaft section has: a first side fixed in substantially a center section of both of the inner housing and the outer housing, and a second side extending into the concave barrel section of the motor housing bulkhead, and

the turbine vane is sandwiched between the inner housing and the outer housing, and is rotatably disposed around an outer periphery of the shaft section.

12. The fuel supply unit as claimed in claim 11, wherein

between the motor section and the pump section, the magnet joint is disposed, and

the magnet joint conveys the rotational speed of the motor section to the pump section, with the concave barrel section of the motor housing bulkhead free from a contact with the female joint and the male joint which two members constituting the magnet joint.

13. The fuel supply unit as claimed in claim 12, wherein

the female joint of the magnet joint is disposed in the motor housing bulkhead and is rotatable by means of the motor section,

the male joint of the magnet joint is disposed outside the motor housing bulkhead, and

being interlocked with the female joint, the male joint drives the pump section.

14. The fuel supply unit as claimed in claim 13, wherein

the female joint of the magnet joint includes a magnet mounting barrel and a plurality of the outer magnets,

the magnet mounting barrel shaped substantially into a covered barrel surrounds the concave barrel section of the motor housing bulkhead,

on an inner periphery of the magnet mounting barrel, the outer magnet having an S pole and the outer magnet having an N pole are alternately disposed circumferentially, and

the magnet mounting barrel is mounted to the output shaft of the motor section.

15. The fuel supply unit as claimed in claim 14, wherein

the male joint of the magnet joint includes a hollow magnet mounting shaft and a plurality of the inner magnets,

the magnet mounting shaft is disposed inside the concave barrel section of the motor housing bulkhead and is rotatably supported by the shaft section of the pump section,

on an outer periphery of the magnet mounting shaft, the inner magnet having an S pole and the inner magnet having an N pole are alternately disposed circumferentially, and

the magnet mounting shaft is connected to the turbine vane by way of an engagement protrusion extending toward the pump section.

16. The fuel supply unit as claimed in claim 15, wherein

the outer magnet of the female joint and the inner magnet of the male magnet sandwiching therebetween the concave barrel section of the motor housing bulkhead magnetically attract each other, thus rotating the female joint together with the male joint, and

when the motor section in the motor housing bulkhead is driven, the magnet joint rotates the pump section with the concave barrel section sandwiched, free of the contact, between the outer magnet and the inner magnet.

17. The fuel supply unit as claimed in claim 3, wherein

a cover body is mounted to a wall of a mount opening of the fuel tank and constitutes a part of the fuel tank,

the cover body receives the motor section of the fuel pump in such a manner that the motor section is disposed lengthwise substantially perpendicular to sidewise, and

the cover body is shaped substantially into a stepped barrel.

18. The fuel supply unit as claimed in claim 17, wherein

the cover body includes the motor housing bulkhead, an electric part housing and a flange section,

the motor housing bulkhead extending substantially axially in substantially an upward-and downward direction has a deep base and shaped substantially into a based barrel,

the electric part housing formed by increasing in diameter an opening side of the motor housing bulkhead has a shallower base than the motor housing bulkhead, and

the flange section is formed by increasing in diameter an opening side of the electric part housing.

19. The fuel supply unit as claimed in claim 18, wherein

the motor housing bulkhead constitutes a sealing means for sealably separating the motor section from the fuel in fuel tank, thus bringing about the oil tightness,

the motor housing bulkhead shaped substantially into a based barrel includes a barrel section, a base section and a concave barrel section,

the barrel section extends upward and downward,

the base section disposed below the barrel section is shaped substantially into an annulus,

the concave base section is a based barrel which is bent from an inner periphery of the base section into the barrel section, and

the concave base section is substantially coaxial with the barrel section.

20. The fuel supply unit as claimed in claim 3, wherein

the motor housing bulkhead constituting a sealing means includes a barrel section, a base section and a concave barrel section, thus forming a based barrel extending substantially axially,

the concave barrel section inroads into the barrel section, and

substantially an innermost base of the concave barrel section is formed with a bearing barrel section.

21. The fuel supply unit as claimed in claim 20, wherein

the motor section constituting the fuel pump includes a stator and an inner rotor,

the stator housed in the motor housing bulkhead and sandwiched between the barrel section and the concave barrel section constitutes the first part of the motor section, while the inner rotor disposed outside the motor housing and therefore inside the concave barrel section constitutes the second part of the motor section,

the inner rotor is rotatably born by a bearing shaft 86 having a first end mounted to the bearing barrel section of the motor housing bulkhead and a second end mounted to an outer housing of the pump section, and

an engagement protrusion constituting the second part of the motor section engages with a turbine vane of the pump section in such a manner as to rotate substantially integrally with the turbine vane.

22. The fuel supply unit as claimed in claim 3, wherein

the motor housing bulkhead including a barrel section and a base section is formed into a based barrel,

the base section blocks a lower side of the barrel section, and

substantially in a center of base section, a concave barrel section is formed.

23. The fuel supply unit as claimed in claim 22, wherein

the motor section which constitutes the fuel pump includes a stator and an outer rotor,

the stator housed in the barrel section of the motor housing bulkhead constitutes the first part of the motor section, while the outer rotor disposed outside barrel section of the motor housing bulkhead constitutes the second part of the motor section,

the outer rotor covering the barrel section is shaped substantially into a based barrel, and

the outer rotor has a base section which is rotatably born by a bearing shaft and which engages with a turbine vane of the pump section by way of an engagement protrusion which constitutes the second part of the motor section.

24. The fuel supply unit as claimed in claim 23, wherein

a barrel cover covers an outer periphery of the outer rotor, and

the barrel cover has a head end side formed with a pump case.

25. The fuel supply unit as claimed in claim 1, wherein

a base section of a chamber constitute a part of a base plate of the fuel tank.

26. The fuel supply unit as claimed in claim 1, wherein

a part of an upper plate of the fuel tank is so machined as to be dent downward for providing a space for the motor housing bulkhead.

27. The fuel supply unit as claimed in claim 1, wherein

the fuel supply unit includes any one of:

a heat insulation space occupied by an insulation material, and

the motor housing bulkhead made of an insulation material.

28. The fuel supply unit as claimed in claim 1, wherein

the fuel supply unit includes any one of:

a trochoid,

a gear, and,

a reciprocating member.